HUKILL CHEMICAL CORPORATION

INTERNAL COMMUNICATION

To: Distribution
From: Michael Mraz
Date: May 1, 1996

Re: Process Codes

Attached to this memorandum is a reference list to be used in compiling a process code for materials, hazardous and non-hazardous, which are proposed and then shipped to Hukill. It is a draft, which may be changed or even replaced if there is a better method proposed and agreed to. It may be expanded in any category if you believe it will better serve our needs with additional descriptions. It is my intention though, to go ahead and implement process coding as this is written and make improvements as we proceed.

I propose that it work like this:

1) The Sales group, either the outside salesperson, or an inside sales service person, would assign a preliminary code to a proposed waste stream by writing it on the WDS Addendum. This will serve to communicate to all administrative and operational personnel, the intentions of the salesperson, and probably the understanding reached with the customer. Limitations imposed on us by the generator concerning the handling and disposition of his waste would also be expressed in this manner. Of course this information is not always easily known, in which case there is simply no process code assigned, although any information the salesperson wishes to transmit may be written on the addendum.

2) Once a profile is submitted, it is reviewed to ensure that Hukill can legally and safely accept the material, and that we have the capabilities and capacity to process it in accordance with the federal and state regulations as well as the generators' wishes. The reviewing person(s) would be expected to make written comments pertaining to associated hazards, necessary precautions in handling and processing, and limitations to our ability to handle or process. The reviewer would also verify that the process code indicated by the sales department is operationally feasible and cost effective. Where it is not the most practical method, for whatever reason, the reviewer would indicate a preferred choice, and verify that the alternate method of handling is acceptable to the generator.

3) The final and agreed upon process code would be entered into the Wixel tracking and management system and be reproduced on all paperwork associated with the receipt, analysis, storage, handling, processing, shipment and disposal of the waste stream.

4) Upon receipt of the material, the process code will be marked on the side of each container, in close proximity to the generator's waste label.

5) If, upon sampling inspection or analyses, it becomes apparent that the material is not able to be processed in the manner suggested by the process code because of its physical or chemical makeup, the process code will be changed to reflect the difference. This new process code will also be changed on process paperwork so that upon submittal for billing, the revised process code is provided.

6) The WDS Addendum is set up so that as there are changes to a waste stream that would cause it to require different handling, or if there are changes to the waste disposal market providing a better

disposal outlet, changes may be made to the process code, with dates indicated and the initials of the person making the change. With this information maintained, we are able to have a history of the stream.

Examples of the Process Codes applied:

1) Material - Solvent Blend, used as a wash solvent in the paint industry; contains Acetone, MEK, Toluene, Ethyl Acetate, isopropyl Acetate, and Xylene. BTU's are 11,600; Cl is .3%, material is liquid with about 1/3 of a drum of sludge. The generator would like it fuel blended, and will only allow the use of Systech.

   An appropriate process code would be C - F - ML - 1 - D - SP

   This process code indicates:

   C - that the material presents no hazards beyond those associated with common organic solvents
   F - that it is to be fuel blended
   ML - that it contains sludge, up to 1/3 of the container, and the remainder of the drum is liquid
   1 - the solvent blend is < 5% chlorine and > 10,000 BTU / pound
   D - we are to disperse the material
   SP - for some reason, the material must go to Systech in Paulding, Ohio

   Alternatively, we could use C - F - ML - 1 - E, D - SP indicating that we are to evaluate the feasibility of the material for reclamation on a load by load basis, prior to fuel blending it.

2) Material - Ammonium Nitrate liquid; old stock ; non - hazardous from a regulatory perspective.

   Here an appropriate waste code is S - L - LL - S - AW

   This process code indicates :

   S - this material, on the one hand a simple fertilizer, is also a strong oxidizer, used in rocket propellants, and presents an explosion hazard particularly when mixed with a combustible material
   L - intended disposal method is by landfill
   LL - characteristically, it is liquid with essentially no solids or sludge, and may readily be pumped or dumped. In this case, although we would not perform any of these activities, it is still helpful to understand the physical and / or chemical characteristics of the material.
   S - material is to remain in the containers in which it arrived at Hukill, be relabeled and shipped offsite
   AW - this material is suitable for and approved at American Waste Services, a landfill, where they will solidify and fix it prior to disposal there

3) Material - paint cans, rags, rubber gaskets, glass; all contaminated with solvents; material is considered a solid, has a low flash point, no metals, and BTU's are described as < 5000 / pound

   In this case, an appropriate process code would be C - F - SD - 3 - C - EK

   Logic is to be discussed with this example

HUKILL CHEMICAL CORPORATION

PROCESS AND TREATMENT CODES

Hazard Codes:

H - Highly Dangerous; Do Not Open; see area supervisor

S - Special Handling required; see instructions

C - Common organic solvent; take normal precautions

Process Categories with Codes:

R - Reclamation / Recovery

F - Fuel Blend

I - Incineration

W - Waste Water Treatment

L - Landfill

A - Acids

B - Bases

Physical State Categories with Codes:

LL - Liquid; no or low solids; may be pumped or dumped

LD - Liquid; contains debris which affects handling

ML - sludge; 0 to 1/3 in container; liquid on top

MM - sludge; > 1/3 and < 2/3 in container; liquid on top

MH - sludge; > 2/3 in container; liquid on top

MD - sludge; contains debris which affects handling

NP - Solid; 0 to 1/3 in container; liquid or sludge on top

NF - Solid; 1/3 to 2/3 in container; liquid or sludge on top

NN - Solid; 2/3 to full in container; liquid or sludge on top

SG - Solid; dry, granular, or crumbly

SS - Solid; sludgy, tacky, pasty, etc.

SM - Solid; monolithic

SD - Solid; is, or contains debris which can be shredded

SL - Solid; dry; lightweight; rags, PPE, filters, etc.

Analytical Characteristics and Codes:

Fuels

0 - [reserved]

1- chlorine < 5%, BTU > 10,000

2 - chlorine < 5%, BTU 5000 to 10,000

3 - chlorine < 5%, BTU < 5000

4 - chlorine 5 to 10%, BTU > 10,000

5 - chlorine 5 to 10%, BTU 5000 to 10,000

6 - chlorine 5 to 10%, BTU < 5000

7 - chlorine > 10%, BTU > 10,000

8 - chlorine > 10%, BTU 5000 to 10,000

9 - chlorine > 10%, BTU < 5000

20 - special handling; incompatible, metals, high water, etc.

Water

30 - high solids, high solvent

31 - high solids, low solvent

32 - low solids, high solvent

33 - low solids, low solvent

40 - special handling - metals, phenols, ammonia, etc.

Disposition Codes:

E - Evaluate stream for reclamation feasibility

S - Ship offsite in container; requires relabeling

R - Repackage and Ship offsite; requires relabeling

C- Sort and / or consolidate within containers

X - Compact in container

P - Pump

D - Disperse

W - Strip solvents

N - Neutralize

J - See job order

Disposal Facilities:

CF - Generic Chemfuel Blend - disposal site unspecified

TW - TBN Cemtech; Wampum, Pa

SP - Systech, Paulding, Oh

SF - Systech; Fredonia Ks

SA - Systech; Alpena, Mi

EK - Essex; Kingsville, Mo

PC - PCI; South Chicago Hts, Il

RB - Rineco; Benton, Ar

RA - Reserve Environmental; Ashtabula, Oh

RC - Research Oil; Cleveland, Oh

AW - American Waste Services; Warren, Oh.

CC - Clean Harbors; Cleveland, OH